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KNOWLEDGE, ATTITUDES, AND PRACTICES TOWARDS VOLUTARY MEDICAL MALE CIRCUMCISION IN HIV PREVENTION AMONG MALES IN ATUTUR GENERAL HOSIPTAL, KUMI DISTRICT. A CROSS - SECTION STUDY.

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ABSTRACT

Background:

The Knowledge about Voluntary Medical Male Circumcision in HIV prevention among Males in Atutur General Hospital, Kumi district, the Attitudes toward Voluntary Medical Male Circumcision in HIV prevention among males in Atutur hospital, and the Practices toward VMMC in HIV prevention among males in Atutur General Hospital.

Methodology:

A descriptive cross-section study was used, and data was collected from 50 respondents. The respondents were selected using the probability sampling method, and an English-typed questionnaire with closed- and open-ended questions was used as the data collection tool. Data was analyzed manually using tally sheets and entered into the computer using Microsoft Excel to illustrate the graphs and figures for quantitative data.

Results:

(58%) of the respondents were in the age group of 18-30 years, (56%) were married and (48%) had attained a tertiary level of Education Findings revealed that the respondents had good knowledge of VMMC in HIV prevention, 76% knew that MC reduces the chance of getting HIV. Most (67.7%) of the respondents would consider being circumcised if there were no/minimal complications, 54.5% of the uncircumcised portion of respondents were willing to get circumcised on the basis that MC reduces chances of contracting HIV infection, and (78%) preferred that circumcision be carried out in a health facility and 38% of the respondents were circumcised.

Conclusion:

The knowledge toward VMMC in HIV prevention among males in Atutur General Hospital is good but with a poor attitude and practices.

Recommendation:

The administration of Atutur General Hospital should organize frequent free medical male circumcision services and its health workers should effectively control pain during and after circumcision, provide more health education and sensitization, and also put up measures that facilitate quick healing like proper sterile technique, antibiotic therapy and advice on proper wound care after circumcision.

Keywords: *Voluntary medical male circumcision, HIV/AIDs prevention, Atutur general hospital, Kumi district*

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BACKGROUND

According to the Ministry of Health Uganda estimates in 2020, HIV infection has a prevalence in adults (15-49 years) of about 5.5% and an incidence of about 0.3% in adult females and 0.2% in adult males. Because HIV infection has no cure, it's very important to prevent its transmission whose route is most commonly through having unprotected sex with an infected partner. The risk of acquiring HIV however, can be reduced through abstaining from sex, having one sexual partner, and use of female or male condoms. In 2007 the WHO and Joint United Nations Program on HIV/aids (UNAIDS), recommended that VMMC should be offered to males as part of a comprehensive HIV risk reduction programme in settings with generalized HIV epidemics and low levels of male circumcision.The 16 Southern Africa Development Community (SADC) countries remain the epicenter of the HIV/AIDS epidemic with the largest number of people living with HIV/AIDS. Anti-retroviral treatment (ART) has improved survival and prevention of mother-to-child transmission (PMTCT) of HIV, but the disease remains a serious cause of mortality. The GBD study is a systematic, scientific effort by the Institute for Health Metrics and Evaluation (IHME) to quantify the comparative magnitude of health loss due to diseases, injuries, and risk factors by age, sex, and geographies for specific points in time. We analyzed the following outcomes: mortality, years of life lost, years lived with disability, and disability-adjusted life-years due to HIV/AIDS for SADC. HIV/AIDS caused 336,175 deaths overall in SADC countries, and more than 20 million DALYs. This corresponds to a 3-fold increase from 113,631 deaths (6,915,170 DALYs) in 1990. The five leading countries with the proportion of deaths attributable to HIV/AIDS in 2017 were Botswana at the top with 28.7% (95% UI; 23.7–35.2), followed by South Africa 28.5% (25.8–31.6), Lesotho, 25.1% (21.2–30.4), eSwatini 24.8% (21.3–28.6), and Mozambique 24.2% (20.6– 29.3). The five countries had relative attributable deaths that were at least 14 times greater than the global burden of 1.7% (1.6–1.8). Great progress in reducing the HIV/AIDS burden has been achieved since the peak but more needs to be done. (Gona, et al., 2020).The burden of HIV is especially concerning for Eastern and Southern Africa (ESA), as despite the expansion of test-and-treat programs, this region continues to experience significant challenges resulting from high rates of morbidity, mortality, and new infections. Hard-won lessons from programs on the ground in ESA should be shared. The elimination of HIV in ESA will require continued investment, commitment to evidence-based programs, and persistence. Local research is critical to ensuring that responses in ESA are targeted, efficient, and evaluated. (Parker EL, 2021). Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) are among the most serious health and development challenges not only nationally but also globally with an estimated 37.7 million people living with HIV at the end of 2020, over two-thirds of whom (25.4 million) are in Africa and tens of millions have died of AIDS-related causes since the beginning of the epidemic. Following the WHO recommendation of SMC as an HIV infection measure in 2007, the MOH Uganda in 2010 also drafted a VMMC policy intending to include SMC as part of a comprehensive national HIV preventive program, however, studies have shown a much lower prevalence of VMMC uptake of only 31.4% (95% confidence interval[CI] 26.8-36.2) for instance VMMC uptake in Wakiso, the district in Uganda with the highest HIV prevalence of 7% has a very low estimated proportion of men who have undergone VMMC (30.5%). (Ruth nyaiti Kiyai, 2023). This low uptake could be related to the knowledge, attitudes, and practices of the people toward VMMC, an area deficient in research. The Human Immunodeficiency Virus /Acquired Immune Deficiency Syndrome (HIV/AIDs) epidemic remains a major problem, especially in countries of sub-Saharan Africa like Uganda (Lubogo D, 2015).

Methodology

Study design

A descriptive cross-sectional study research design was used to carry out this study. It was descriptive because it gave detailed information about the knowledge, attitudes, and practices towards voluntary medical male circumcision in HIV prevention among males in Atutur General Hospital, Kumi district.

Study area

The study was carried out in Atutur General Hospital. The health facility is located on the Tororo- Mbale-Soroti road; in the community of Atutur in Kumi district in Teso sub-region in the Eastern region of Uganda. It is located about 59km south-east of Soroti Regional Referral Hospital which is approximately 45km northwest of Mbale Regional Referral Hospital.

Study population

The study population consisted of all adult (above 18 years) male patients who attended Atutur General hospital, Kumi district.

Sample size determination

The sample size of males attending health services in Atutur general hospital using the Burton's formula given below, (Burton's 1965)
S= (QR)/O:
Where:
S=required sample size
Q=number of days the researcher will spend while collecting data R=maximum number of respondents per day
O=maximum time the interviewer spent on each respondent
And;
Q=5 days
R=5 respondents O=1/2hour S=5*5/1/2
Therefore, the researcher used 50 respondents.

Sampling technique

The study used both probability and non-probability sampling methods to select the respondents. Simple random sampling technique was the probability and purposive sampling was the non-probability. Simple random sampling technique was used because of its low bias levels compared to the other techniques; purposive sampling technique was used because some males had a desired character.

Sampling procedure

Respondents were selected in such a way that; 45 patients were chosen randomly and 5 patients were chosen purposively at the hospital premises considering those who were available.

Data collection Method

A questionnaire typed in English having both open ended questions and closed ended questions was used. This was then translated in the local language (Ateso) for the participants who were not in position to read and interpret the questions there in.

Demographic Data

Data collection tool
To ease the data collection process, tools like questionnaires, consent forms, tables, chairs, pens and pencils were used.

Data collection procedure
Qualified participants were interviewed by the researcher and two trained research assistants collected data using the questionnaires. The researcher and the assistants met the respondents, introduced themselves and explained the purpose of the study in order to gain consent from them.

Study variables
Voluntary Medical Male Circumcision in HIV prevention was the dependent variable whereas Knowledge, Attitudes, and Practices towards it were the independent variables.

Quality control
The questionnaires were pretested in Atutur general hospital, Kumi District. And research assistants were trained in data collection using questionnaires.

Inclusion criteria
All adult males (above 18 years of age) who consented to participate in the study

Exclusion criteria
All males who below 18 years of age and those who refused to consent to participate in the study even when they met the age requirement

Data analysis and presentation
Data was analyzed manually by use of tally sheets, processed and analyzed using a simple electronic computer to compute frequencies and percentages (using the Excel computer program); then were presented in terms of percentages, distribution tables, pie charts and bar graphs for easy interpretation of the study findings.

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Original Article

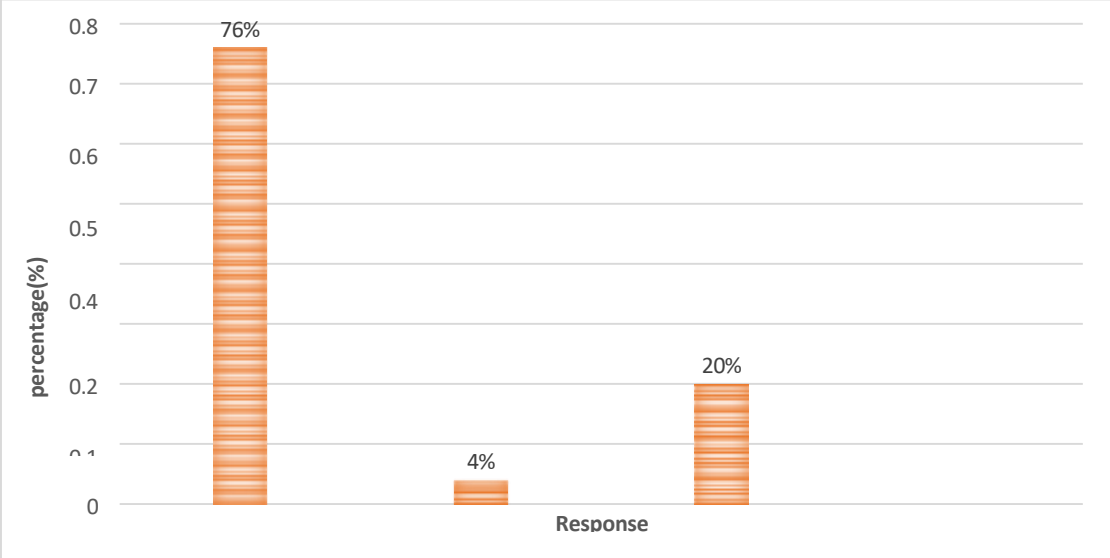
Table 1: Shows the distribution of respondents according to demographic data.

Variables	**Categories**	**Frequency**	**Percentages**
Age (years)	18-30	29	58
	30-45	14	28
	>45	7	14
Total		**50**	**100**
Marital Status	Single	17	34
	Cohabiting	5	10
	Married	28	56
Total		**50**	**100**
Level of Education	No formal education	3	6
	Primary level	16	32
	Secondary level	7	14
	Tertiary level	24	48
Total		**50**	**100**
Religion	Protestant	17	34
	Catholic	16	32
	Muslim	2	4
	Pentecostal	14	28
	Others	1	2
Total		**50**	**100**
Occupation	Unemployed	26	52
	Self-employed	19	38
	Employed	5	10
Total		**50**	**100**

From Table 1, the majority (58%) of the respondents were in the age group of 18-30 years, and minority (14%) aged above 45 years. In the study, findings reveal that the majority (56%) were married and the minority (10%) were cohabiting. Regarding the education level attained, the majority (48%) had attained a tertiary level of Education, and Minority (6%) had no formal Education at all. Concerning religion, the Majority (34%) were found to be protestants and the Minority (2%) were of other unspecified religions. The majority (52%) were unemployed and minority (10%) were employed.

Knowledge towards voluntary medical male circumcision in HIV prevention among males in Atutur general hospital, Kumi district

Figure 1: Shows the distribution of respondents according to whether they know that circumcision of a man who does not have HIV reduces his chance of getting HIV N= (50)



From Figure 1 above, the majority (76%) of the respondents agreed that circumcision of HIV-negative males reduces their chances of getting HIV, whereas a minority (4%) disagreed

Table 2: Shows distribution of respondents according to whether circumcision of a man who does not have HIV completely protects him from getting HIV N= (50)

Response	**Frequency**	**Percentage (%)**
True	8	16
False	36	72
Not sure	6	12
Total	**50**	**100**

From Table 2, findings regarding whether circumcision completely protects HIV-negative males from contracting HIV reveal that the majority (72%) of the respondents disagree whereas the minority (12%) are not sure. The rest, (16%) were not in agreement.

Table 3: Shows distribution of respondents who know that circumcision reduces risk of contracting STIs N= (50).

Response	Frequency	Percentage (%)
True	36	72
False	10	20
Not sure	4	8
Total	**50**	**100**

According to Table 3 above, findings reveal that the majority (72%) agree that circumcision reduces the risk of STIs whereas the minority (8%) are not sure. The remaining 20% disagreed.

Table 4: Shows distribution of respondents according to whether male circumcision helps in penile hygiene N= (50).

Response	Frequency	Percentage
Yes	45	90
No	3	7
Not sure	2	3
Total	**50**	**100**

According to findings in the table above, majority (90%) agree that male circumcision helps in penile hygiene whereas minority (3%) are not sure as to whether male circumcision improves penile hygiene or not.

Journal of World Health Research
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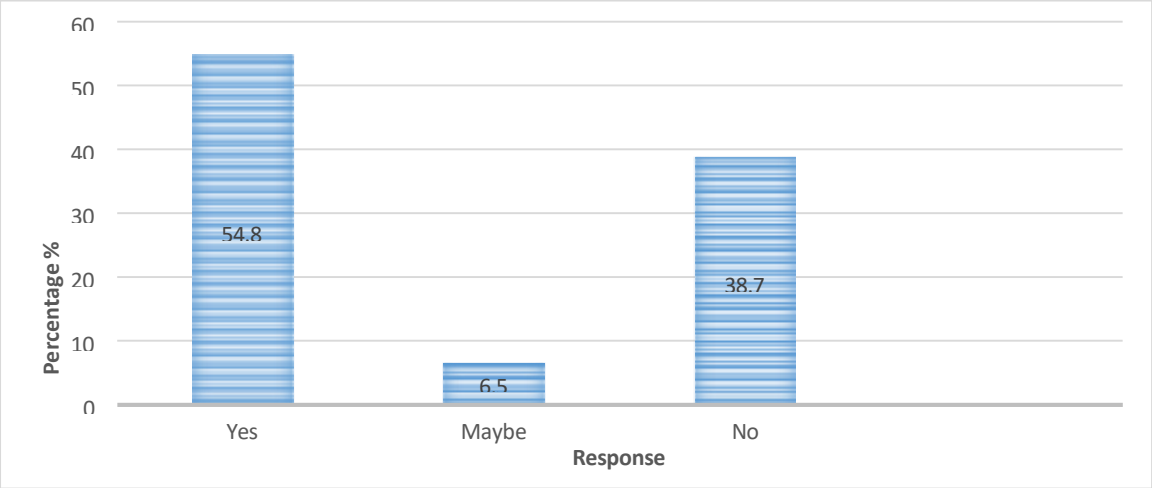
Figure 2: Shows distribution of uncircumcised male respondents who would consider to be circumcised on the basis that circumcision reduces chances of infection with HIV n= (31)



From the figure above, findings show that the majority (54.8%) of the respondents would consider circumcision on the basis that it reduces the chances of infection with HIV. While the minority (6.5%) were not sure whether they would consider being circumcised even on the basis that circumcision reduces the chances of infection with HIV.

Figure 3: Shows distribution of respondents according to whether they would choose to be circumcised if there were no/minimal complications n= (31)

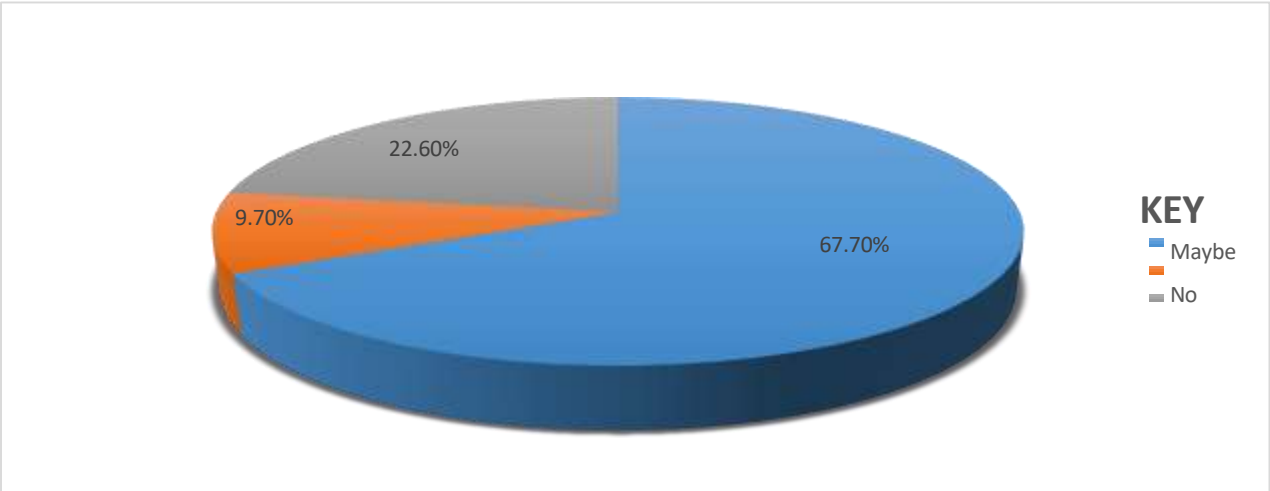


Figure 3 shows that most (67.7%) of the respondents would consider being circumcised if there were no/minimal complications. Least of the respondents were not sure if even with no/minimal complications they would consider circumcision

Table 5: Shows distribution of respondents according to the factors that prevented them from getting circumcised. n= (31)

Factor	Frequency	Percentage%
Fear of pain	19	61.3
Culture	3	9.7
Not interested	9	29
Total	**31**	**100**

Findings in Table 5, on the distribution of respondents according to the factors that prevented them from getting circumcised, the majority (61.3%) of the respondents fear pain while the minority (9.7%) don't want to circumcise for cultural reasons .The rest (29%) however, were not just interested in being circumcised.

Figure 4: Shows distribution of respondents basing on their opinion as to whether females should be involved in carrying out medical male circumcision.

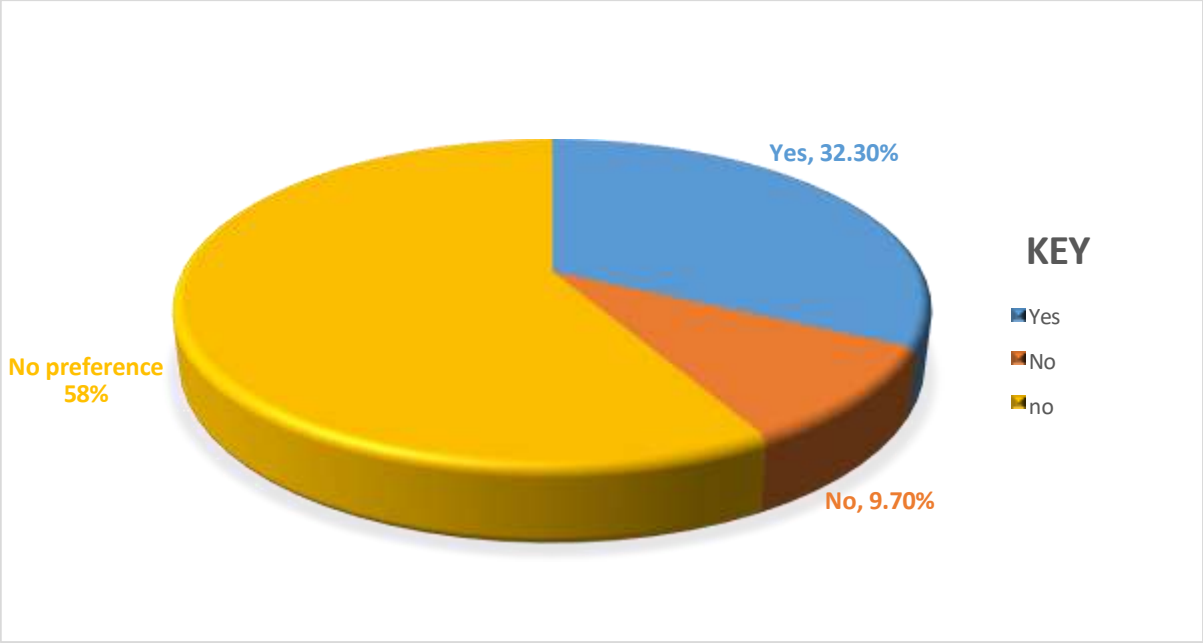


Figure 4: shows that the majority, (58%) of the respondents had no preference on who carries out the medical male circumcision, whether male or female. Minority (9.7%) do not support female involvement in male circumcision while 32.6% didn't support female involvement in the procedure.

Practices towards Voluntary Medical Male circumcision in HIV prevention among males in Atutur general Hospital Kumi district

Table 6: Shows the distribution of respondents who are circumcised and those that are not N=50.

Category	Frequency	Percentage
Circumcised	19	38
Uncircumcised	31	62
Total	**50**	**100**

Table 6 shows that the majority (62%) of the respondents are uncircumcised and the minority (38%) are circumcised.

Figure 5: Shows distribution of respondents basing on the reason they would support circumcision N= (50)

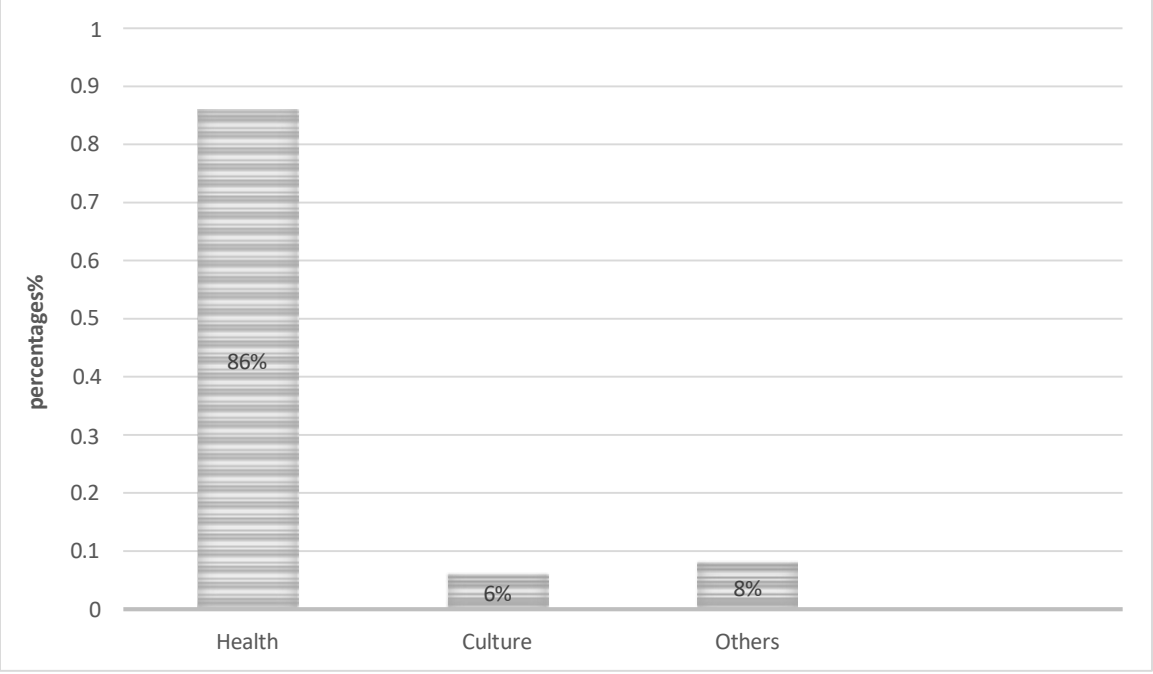


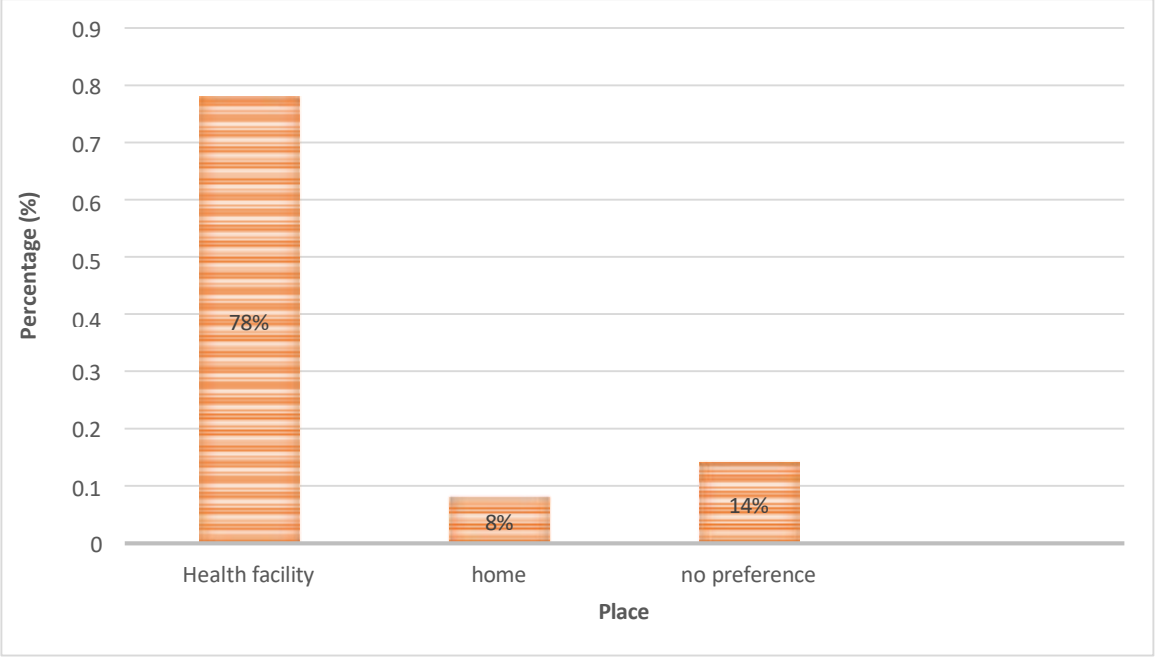
Figure 5: show that majority of the respondents (86%) supported circumcision for health reasons. Minority (6%) supported circumcision for cultural reasons. The rest of the respondents, (8%) supported circumcision for other reasons.

Table 7: Shows distributions of respondents basing on who they suppose is the ideal person to perform circumcision N= (50).

Category	**Frequency**	**Percentage**
Health worker	36	72%
Traditionalists	4	8%
No preference	10	20%
Total	**50**	**100%**

Table 7, the majority (72%) of the respondents prefer circumcision to be performed by health workers, minority (8%) prefer traditionalists. The rest, (20%) had no preference.

Figure 5: Shows distribution of respondents according to where they consider as the ideal place of performing Male Circumcision.



From the figure above, most of the respondents (78%) preferred that circumcision be carried out in a health facility, while the least of the respondents (8%) preferred that it be done at home. The rest (14%), had no preference on where the procedure should be done.

Discussion

Knowledge towards Voluntary medical Male circumcision in HIV prevention among males in Atutur general hospital, Kumi district

The findings revealed that 76% of the respondents knew about circumcision being a measure that reduces the chances of an HIV-negative man from getting infected with HIV. This could be attributed to the continuous sensitization on medical male circumcision done in the health facilities and other media platforms. This knowledge is supported by the study that showed that indeed removal of the penile foreskin plays many roles in reducing HIV infection. (Gray, 2019) . In the findings, most respondents (72%) disagreed that circumcision completely protects males from getting infected with HIV. This could be attributed to health education sessions given by the health workers on circumcision which has helped clear any myths and misconceptions. This is contrary to a previous study in which the majority (59.21%) of respondents disagreed that male circumcision only reduces chances of infection, they urged that circumcised males are 100% protected. (Mirriam Hlelisani Shezi, 2023). In the same study (Mirriam Hlelisani Shezi, 2023), 78.38% respondents agreed that circumcision reduces risk of STI and 72.24% agreed that circumcision improves penile hygiene.

This was in agreement with the study findings in Atutur general hospital which revealed that 72% agreed that male circumcision reduces risk of STIs and 90% agreed that circumcision improves on penile hygiene. This could also be attributed to the health education sessions received in the hospital.

Attitudes towards Voluntary Medical Male Circumcision in HIV prevention among males in Atutur General Hospital, Kumi District

Study findings revealed that 54.8% would consider being circumcised on the basis that circumcision reduces the chances of men getting infected with HIV, this could be attributed to the fact that the majority of the population attained some formal education and so can easily come to understanding. This is closely in agreement with the study conducted on "sexual risk behaviors and willingness to be circumcised among uncircumcised adult men." which showed that 44% of men were willing to be circumcised as a measure to reduce chances of contracting HIV. (Kibira SPS, 2015).Study findings reveal that 67.7% of the uncircumcised men would consider circumcision if there were no/minimal complications of circumcision. This could be due to negative reports given by those who were circumcised to the uncircumcised about the difficulties faced during and after circumcision. These findings are supported by similar findings found in KwaZulu- Natal where negative experiences during and after circumcision were reported. These could have deterred many from taking up circumcision. Complications associated with healing, performance time, and nature were reported. (Mchunu, 2020), (Celenkosini T nxuma, 2020) .The study findings further revealed that 29% of the respondents would take up circumcision for HIV prevention and 45.2% for STI prevention, the rest 25.8% for hygiene promotion, this is in very close agreement with the study conducted in KwaZulu-Natal which showed that participant's perception regarding VMMC are health-related and are the motivators for uptake of medical circumcision. (Mchunu, 2020). These findings may result from the fact that the study area is a non-cultural circumcising community and so would mostly consider circumcision for basically factual and scientifically proven reasons. The findings also revealed that fear of pain is by far the major factor that has prevented the majority (61.3%) of the respondents from getting circumcised. A study also revealed pain as an outstanding factor that hinders the effective uptake of VMMC. (Promise N. Sagweni, 2019). A study on 'Incidence of bleeding in children undergoing circumcision with ketorolac administration.' also revealed that pain is the most common complaint of parents after circumcision and is the reason they avoid Pursuing circumcision for their children. (Gao, et al., 2018). These findings may be a result of the many complaints from the circumcised group. In regards to respondent's attitudes towards female involvement in carrying out medical male circumcision, findings revealed that the majority (58%) had no preferences. This is contradictory to the study findings in Kweneng East which revealed that lack of involvement of women caused low uptake of circumcision. (thandisizwe R. Mavundla, 2021). The results could be attributed to the fact that since many of the respondents prefer being circumcised at a health facility, they trust that as long as the female practitioner is trained, they can carry on the procedure as well as the male practitioners can.

Practices of Voluntary medical male circumcision in HIV prevention among males in Atutur General Hospital

In regards to the portion of the respondents circumcised, it was found that 38% of them were circumcised, this was in agreement with a study conducted in 2016 which revealed that 37-39% of men globally were circumcised. (Brain j Morris, 2016). This low uptake may be resulting from the fact that the respondents are from a non-circumcising community.

In relation to the reason for circumcision among males in Atutur, findings revealed that the majority (86%) were circumcised for health reasons. This is out of line with study findings revealed in most religious groups that had a 0.1% prevalence related to Male circumcision (MC) for medical reasons. (Morris, et al., 2016). This could be attributed to the fact that it's a non-cultural circumcising community.Also, regarding the ideal person who should carry on the practice of male circumcision, study findings reveal that most (72%) of the respondents prefer health workers to take on the practice and 78% of the respondents prefer health facilities as ideal place of circumcision. In contrast, a study in KwaZulu-Natal revealed that most of the respondents reported that medical male circumcision defies the laws of traditional circumcision because of how it was performed.(Nxumalo & mchunu, 2020). Being a non-circumcising community by culture, most of the respondents prefer to be circumcised by a health worker whom
they supposed can be trusted.

Conclusion

The overall findings of the study reveal that a satisfactory portion of the population had correct knowledge toward Voluntary Medical Male Circumcision in HIV prevention where most agreed that male circumcision only reduces chances of infection with HIV, most disagreed that male circumcision completely protects HIV-negative men from contracting the disease.

Regarding the attitudes towards voluntary medical male circumcision in HIV prevention among males, findings reveal a consolably fair attitude among respondents in which the uncircumcised were willing to be circumcised on the basis that circumcision reduces the chances of getting HIV.Regarding the practices toward medical male circumcision in HIV prevention, findings reveal very poor practices in which only of the respondents were circumcised the rest being uncircumcised. The majority of the respondents preferred the practice to be carried out in a medical setting than in any other and preferred that a health worker take on the practice.The researcher concluded that respondents exhibited good knowledge, fair attitude, and poor practices toward voluntary medical male circumcision in HIV prevention among males in Atutur General Hospital, Kumi district. However, more has to be done to redirect people's attitudes and increase the uptake of voluntary medical male circumcision.

Recommendations

Proper pain management during and after circumcision seeing that pain takes the highest proportion of factors hindering uptake of circumcision among the males, Proper antibiotic therapy and health education on proper wound hygiene after circumcision is also highly recommended to ease healing. The sterile technique of circumcision is also highly recommended to prevent infection that would lengthen the time of healing. Also, the researcher recommends the arrangement of more frequent periodic free medical male circumcision services in different health facilities by the Ministry of Health to give more opportunity and access to the uncircumcised male population.

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List of abbreviations

AIDS : Acquired Immune Deficiency Syndrome
ESA: East Southern Africa
HIV : Human Immunodeficiency Virus
KSHS :Kampala School of Health Sciences
MMC :Medical Male Circumcision
MOH :Ministry of Health
SRB: Sexual Risk Behavior
UNAIDS: United Nations on Acquired Immune Deficiency Syndrome
VMMC :Voluntary Medical Male Circumcision

Source of funding
There is no source of funding.

Conflict of interest
No conflict of interest declared.

Availability of data

Data used in this study is available upon request from the corresponding author

Author's contribution

PA designed the study, conducted data collection, cleaned and analyzed data and draft the manuscript and PA supervised all stages of the study from conceptualization of the topic to manuscript writing.

Ethical approval

Before the collection of data for the study, the proposal was first approved by the research committee of the school (Kampala School of Health Sciences). The researcher then sought permission from the administration of the Atutur general hospital in order to collect data from the health facility.

Informed consent

A consent form was filled by the respondents after explaining the purpose of the study to them. The respondents were assured of confidentiality as no name will appear on the questionnaire. No participant was forced to participate in the study and all the study materials used during the interviews were safely kept under lock and key only accessible by the researcher.

Author's biography
Phoebe Akello is a student of diploma in clinical medicine and community health at Kampala school of Health sciences. Patrick Alinde is a research supervisor at Kampala school of Health,Sciences.

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